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April 6, 2000  
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Washington, D.C. 20231

JC135 U.S. PTO  
09/544636  
04/06/00

Re: Application of: Donna Messenger  
Attorney's Docket No. P-1701  
For: Improved Facial Skin Dermabrasion...

Dear Sir:

The patent application as referenced above is enclosed. This application consists of eight (8) pages of specification, four (4) claims, abstract, and declaration and power of attorney.

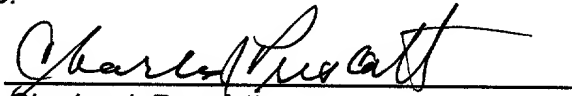
Also enclosed is a declaration claiming small entity status-independent inventor, prior art statement, and our check for the required filing fees for a small entity. You are hereby authorized to charge any underpayment or credit any overpayment, to Account No. 16-2454. Thank you for your cooperation in this matter.

Sincerely,  
  
Charles J. Prescott

CJP:mm  
Enclosures  
cc: Donna Messenger

Express Mailing Label No. EL540304658US  
Mailed: April 6, 2000

I HEREBY CERTIFY that the foregoing application, declaration and power of attorney, declaration claiming small entity status, prior art statement and check for filing fees are being deposited in the U.S. Postal Service, Express Mail Next Day Delivery, postage paid, addressed to the Commissioner of Patents and Trademarks, Box Patent Application, Washington, D.C. 20231, this April 6, 2000.

  
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**VERIFIED STATEMENT CLAIMING SMALL ENTITY STATUS  
(37 CFR 1.9(f) & 1.27(b))—INDEPENDENT INVENTOR**

Docket Number (Optional)  
P-1701

Applicant or Patentee: Donna Messenger

Application or Patent No.: \_\_\_\_\_

Filed or Issued: \_\_\_\_\_

Title: Improved Facial Skin Dermabrasion Cleansing and Conditioning Composition

As a below named inventor, I hereby declare that I qualify as an independent inventor as defined in 37 CFR 1.9(c) for purposes of paying reduced fees to the Patent and Trademark Office described in:

- ☒ the specification filed herewith with title as listed above.  
☐ the application identified above.  
☐ the patent identified above.

I have not assigned, granted, conveyed, or licensed, and am under no obligation under contract or law to assign, grant, convey, or license, any rights in the invention to any person who would not qualify as an independent inventor under 37 CFR 1.9(c) if that person had made the invention, or to any concern which would not qualify as a small business concern under 37 CFR 1.9(d) or a nonprofit organization under 37 CFR 1.9(e).

Each person, concern, or organization to which I have assigned, granted, conveyed, or licensed or am under an obligation under contract or law to assign, grant, convey, or license any rights in the invention is listed below:

- ☒ No such person, concern, or organization exists.  
☐ Each such person, concern, or organization is listed below.

Separate verified statements are required from each named person, concern, or organization having rights to the invention averring to their status as small entities. (37 CFR 1.27)

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 CFR 1.28(b))

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

Donna Messenger  
NAME OF INVENTOR

\_\_\_\_\_  
NAME OF INVENTOR

\_\_\_\_\_  
NAME OF INVENTOR

Donna Messenger  
Signature of inventor

\_\_\_\_\_  
Signature of inventor

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Signature of inventor

4-3-00  
Date

\_\_\_\_\_  
Date

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Date

# **AN IMPROVED FACIAL SKIN DERMABRASION CLEANSING AND CONDITIONING COMPOSITION**

## **BACKGROUND OF THE INVENTION**

### **SCOPE OF INVENTION**

This invention relates generally to skin cleaning and conditioning agents, and more particularly to an improved facial skin abrading, conditioning and moisturizing compound in paste or cream form.

### **PRIOR ART**

One of the early methods of exfoliating the skin was the use of LAVA soap. Later, other ingredients were used such as almond scrubs, apricot kernel scrubs and diatomaceous earth as being somewhat less abusive to the skin during exfoliation. Scrubbing the skin with these compounds would remove the top layers of dead skin, particularly facial skin, to make it look clearer and more youthful.

LOOFA sponges or a "buff puff" produce the same effect with somewhat better results, however. Following that improvement, a more recent method of exfoliation was introduced into a clinical or a beauty salon setting. This latest procedure, most popularly recognized under the term "Power Peel" or "Microdermabrasion" involves the utilization of a machine which shoots a blast of aluminum oxide onto the skin to create controlled skin injury producing an immediate body reaction to effect repair. As a result, healthy, plump skin cells are produced in a substantially shorter time than does the natural skin replacement cycle of 21 to 28 days. As the results of the Power Peel are cumulative, most technicians recommend five (5) to ten (10) treatments spaced apart a week or two, especially where brown spots, fine lines, stretch marks, chicken-pock marks and even tattoos are to be removed. However, the Power Peel is a very costly process and must be done in a clinical setting by trained technicians.

The use of conditioning creams and lotions to enhance the condition of human skin is also well known. More specifically, cleansing agents, emollients, emulsifiers and abrading agents are also well known for improving the condition of facial skin.

U.S. Patent 5,891,449 invented by Daniel et al., teaches such a skin cleaning agent and method of use which includes surfactants, a washing agent, an abrasive, adjuvants for consistency, appearance, odor and stability. Stiefel, in U.S. Patent 4,957,747 also teaches a method of treating aging skin which includes the use of a composition containing a suspension of fine particles of non-absorbable aluminum oxide abrasive in a topically acceptable aqueous base of sodium cocoisethionate, at least one emollient and a suspending agent.

In U.S. Patent 5,679,877, Erilli et al. discloses a cleaning composition containing an abrasive along with paraffin sulfonate, an ethoxylated alkyl ether sulfate, essential oil and water. Another personal cleansing composition is disclosed by Fowler et al. in U.S. Patent 5,753,245 which include insoluble micronized cleansing particles so minute as to be tacitly undetectable by the user during the cleansing process. A surfactant, an emollient and water are included in this composition.

A human skin cleansing and wrinkle-reducing cream invented by Barker is shown in U.S. Patent 5,360,824. Disclosed therein is a cleansing cream which includes water soluble granules sufficient in size, quantity and hardness to abrade the keratinized outer epidermal layer of the skin. Included are water soluble vitamins and a base in which the granules are substantially uniformly disposed, preferably formed of oil and a petrolatum jelly.

Another skin cleansing and moisturizing composition is disclosed by Geria in U.S. Patent 4,992,476 teaching a skin cleansing and moisturizing composition including an oil phase, an

aqueous phase and an abrasive which removes oily deposits, cosmetics and particulates from the skin surface, but does not apparently abrade the facial skin itself.

Still another liquid abrasive-containing skin cleanser composition is disclosed in U.S. Patent 4,284,533 invented by Imamura, et al. teaching a liquid cleanser composition including partially cross-linked polyacrylic acid, a hydrotrope, a non-ionic surfactant and a water insoluble abrasive.

Lastly, Banuchi, in U.S. Patent 5,800,446, teaches a glove and an epidermal stick, each of which have skin abrading properties associated with distal portions thereof, which may be applied against the epidermal portion of the skin to effect dermabrading thereof.

The present invention provides a unique composition in paste or, preferably, cream form which affords the benefits of mild facial skin dermabrasion without ripping or tearing skin pores. Also included are selected emollients, emulsifiers, a moisturizer, a chelator and other preservatives to prolong the useful life of the composition and render it substantially non-degradating and anti-bacterial as quantities of the composition are finger removed from a container thereof. By using the present invention in manually scrubbing the facial skin in a circular motion for just a few minutes, almost the same level of injury to the facial skin caused by the Power Peel process is produced using the present invention. This facial skin dermabrasion speeds up the facial skin cell turnover which produces the healthier plumper facial skin cells in a short period of time.

#### **BRIEF SUMMARY OF THE INVENTION**

This invention is directed to a facial skin cleansing and reconditioning composition. The composition generally includes a preselected corundum as a mildly skin abrasive powder which has been decontaminated by gamma ray sterilization rendering it microbially controlled. The

abrasive particles are fused and of highly uniform size and shape, that shape being substantially free of ragged or uneven edges which could rip at the pores or tear the skin. The composition also includes an emollient, an emulsifier, a chelating agent, a preservative and a diluent.

It is therefore an object of this invention to provide a manually applied facial skin mildly dermabrading, cleansing and conditioning composition which provides limiting, non-damaging dermabrasion when manually applied over the facial skin.

It is another object of this invention to provide a skin dermabrasion composition which includes additional ingredients for facial skin conditioning and enhancement during the manual dermabrasion process.

In accordance with these and other objects which will become apparent hereinafter, the instant invention will now be described with reference to the accompanying drawings.

### **DETAILED DESCRIPTION OF THE INVENTION**

The present invention affords an improved compound for dermabrading, conditioning, rejuvenating and moisturizing facial skin. The form of this composition is either a cream or paste uniformly blended with all ingredients being substantially uniformly distributed therethrough.

A primary ingredient of this invention is an alpha alumina or corundum particle structure which possesses the facial skin dermabrading property which avoids the ripping of skin pores or the tearing of facial skin, unlike other products in prior art. This physical attribute is derived from use of a purer and more consistent sized form of corundum or alumina particles or powder which appears to eliminate substantial jagged edges of the particles or powder which are notoriously otherwise the cause of such facial skin abuse in prior art compounds. The uniform shape of each particle of corundum is sometimes referred to as that of a "block t" which is more uniform and less damaging to facial skin.

Corundum, or a aluminum oxide ( $\text{Al}_2\text{O}_3$ ) is typically a white powder, insoluble in water with some levels of impurity called "emery". Its crystals are barrel-shaped prisms of the trigonal system. Poorer in quality, synthetic corundum is used in industry as a manufacturing abrasive. When pure, corundum is colorless and transparent and only exceeded in its hardness by diamonds.

The stable alpha alumina form makes up the corundum used in the present invention and has a purity level of at least about 99% and is substantially devoid of impurities such as those forming rubies and sapphires, rendering such impure aluminum oxide, sometimes called "emery", as being worthy of gemstone utilization, however.

The preferred source of corundum powder utilized in the present invention is available through Micro Abrasives Corp. in Westfield, MA under the trademark MICROGRIT. The "WA" grade, referring to white aluminum oxide grains, is of high purity. It is friable and is screened to precise standards. Corundum formed under fusion in this grade possesses particularly low levels of aggressive or jagged edges, in part, due to its well-developed hexagonal crystal structure. Additionally, by providing a very uniform average particle size in the range of preferably about 120 FEPA (Federal European Abrasive Producers) standard or about 125 microns, the individual particles have less opportunity to excessively abrade facial skin tissue. Additionally, the corundum is pretreated with, preferably, gamma radiation to destroy any microbes existing on or within the cavities of the corundum particles. The preferred quantity of corundum powder in the cream form of the admixture ranges from 30% to 60% by weight, with 40% being preferred.

The present invention includes several additional ingredients which enhance the overall effectiveness of the corundum and render it useful in facial skin dermabrasion and conditioning. One or more emollients are provided which relax and soften facial skin tissue. At least one

emulsifier is also included to provide for maintaining the uniform dispersion of other ingredients in the paste or cream consistency of the invention. One or more preservatives are also included to prevent decontamination and loss of the intended microbe-free nature of the invention as it is used. Typically, the hands and fingers of the user dipping into and removing small quantities of the cream or paste will carry undesirable microbes into the remainder of the admixture, the preservatives intended to arrest any such microbe growth. The remainder of the admixture or compound of the present invention includes a diluent, preferably water, added in amounts sufficient to achieve the desired paste or creamy textured consistency.

The ingredients utilized in the present invention in the form of an emollient are as follows:

Stearic Acid;  
Mineral oil;  
Cetyl Alcohol;  
Glyceryl Stearate SE; and  
Cocoa Butter (Theobroma Cacao)

One or more emulsifiers are selected from the following group:

Stearic Acid (as an emollient);  
Cetyl Alcohol (also an emollient);  
Glyceryl Stearate SE (also an emollient); and  
Polysorbate 20

One or more preservatives are selected from the following group of ingredients:

Sodium Benzoate;  
Methylparaben;  
Propylparaben;

### Diazolidinyl Urea.

A separate chelator formed of trisodium EDTA (eithylene-diaminetetrac acetic acid) is included in the preferred embodiment of the compound serving as both an additional preservative by scavenging ions and microbs which find their way into the compound remaining in the container after hand removal of small quantities thereof during use.

An additional ingredient in the form of titanium oxide is also preferred as providing UV ray protection for the treated, sensitive facial skin area.

The preferred form of the invention was prepared by Corwood Laboratories, Inc. of Hauppuge, New York as follows:

#### EXAMPLE I

<u>Ingredients</u>	<u>Range %</u>	<u>Function</u>
Water	QS to 100%	Diluent
Corundum	40%	Abrasive
Stearic Acid	6-8%	Emulsifier/Emollient
Mineral Oil	5-6%	Emollient
Cetyl Alcohol	2-3%	Emulsifier/Emollient
Glyceryl Stearate SE	1-2%	Emulsifier/Emollient
Cocoa (Theobroma Cacao) Butter	1%	Emollient/Fragrance
Polysorbate 20	Less than 1%	Emulsifier
Titanium Dioxide	Less than 1%	Opacifier
Aloe Barbadensis (Aloe Vera) Gel	Less than 1%	Protectant/Moisturizer
Tocopheryl Acetate (Vitamin E)	Less than 1%	Vitamin/Antioxidant
Triethanolamine	Less than 1%	Neutralizer

Trisodium EDTA	0.10%	Chelator
Sodium Benzoate	0.10%	Preservative
Methylparaben	0.25%	Preservative
Propylparaben	0.10%	Preservative
Diazolidinyl Urea	0.20%	Preservative

In application, it is preferred that the present invention in cream form be applied manually by moving the fingers in a circular motion with the cream spread over the facial tissue for a period of one to three minutes. Thereafter, the residue may be easily washed away with clear water or a mild water/detergent combination if desired.

While the instant invention has been shown and described herein in what are conceived to be the most practical and preferred embodiments, it is recognized that departures may be made therefrom within the scope of the invention, which is therefore not to be limited to the details disclosed herein, but is to be afforded the full scope of the claims so as to embrace any and all equivalent apparatus and articles.

## CLAIMS

What is claimed is:

1. A facial skin cleansing and conditioning admixture uniformly blended into paste or cream form comprising:

a quantity of preselected and preconditioned fused, non-absorbable corundum powder of substantially uniform size and shape;

said powder having a purity of at least about 99% purity, friable and in a size of about 120 FEPA, said particles also decontaminated by radiation prior to blending into said admixture;

an emollient;

an emulsifier;

a preservative; and

a diluent.

2. A facial skin abrading, cleansing and conditioning composition in uniformly blended paste or cream form comprising by weight:

about 40% corundum powder as a mild skin abrasive;

about 6% to 8% stearic acid as an emulsifier and emollient;

about 5% to 6% mineral oil as an emollient;

about 2% to 3% cetyl alcohol as an emulsifier and emollient;

about 1% to 2% glyceryl stearate SE as an emulsifier and emollient;

about 1% cocoa butter (theobroma cacao) as an emollient and fragrance;

up to about 1% polysorbate 20 as an emulsifier;

up to about 1% titanium dioxide as an opacifier and UV screen;

up to about 1% aloe vera as a protectant and moisturizer;  
up to about 1% tocapheryl acetate as a skin nutrient and antioxidant;  
up to about 1% triethanolamine as a neutralizer;  
up to about 0.1% trisodium EDTA as a chelator;  
up to about 0.1% sodium benzoate as a preservative;  
up to about 0.25% methyl paraben as a preservative;  
up to about 0.1% propyl paraben as a preservative;  
up to about 0.2% diazolidinyl urea as a preservative;  
water as a remainder of said composition.

3. A facial skin cleansing and conditioning composition comprising:
  - a mild skin abrasive including corundum powder of substantially uniform size and shape having a purity of at least 99% and a size of about 120 FEPA;
  - an emulsifier including stearic acid, cetyl alcohol, and glyceryl stearate SE and polysorbate 20;
  - an emollient including mineral oil and cocoa butter (theobroma cacao);
  - a protectant and moisturizer including aloe vera (aloe barbadensis);
  - a neutralizer including triethanolamine;
  - a chelator including trisodium EDTA;
  - a preservative including methyl paraben, propylparaben and diazolidinyl urea; and
  - a diluent.
4. A facial skin cleansing and conditioning composition consisting essentially of:
  - a mild skin abrasive including corundum powder of substantially uniform size and shape having a purity of at least 99% and a size of about 120 FEPA;

an emulsifier including stearic acid, cetyl alcohol, and glyceryl stearate SE and polysorbate 20;

an emollient including mineral oil and cocoa butter (theobroma cacao);

a protectant and moisturizer including aloe vera (aloe barbadensis);

a neutralizer including triethanolamine;

a chelator including trisodium EDTA;

a preservative including methyl paraben, propylparaben and diisolidinyl urea; and

a diluent.

## **ABSTRACT OF THE DISCLOSURE**

A facial skin cleansing and reconditioning composition. The composition generally includes a preselected corundum as a mildly skin abrasive powder which has been decontaminated by gamma ray sterilization rendering it microbally controlled. The abrasive particles are fused and of highly uniform size and shape, that shape being substantially free of ragged edges which could rip at the pores or tear the skin. The composition also includes an emollient, an emulsifier, a chelating agent, a preservative and a diluent.

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**DECLARATION FOR UTILITY OR  
DESIGN  
PATENT APPLICATION  
(37 CFR 1.63)**

Attorney Docket Number

P-1701

First Named Inventor

Donna Messenger

**COMPLETE IF KNOWN**

Application Number

/

Filing Date

Group Art Unit

Examiner Name

- ☒ Declaration Submitted with Initial Filing OR ☐ Declaration Submitted after Initial Filing (surcharge (37 CFR 1.16 (e)) required)

As a below named inventor, I hereby declare that:

My residence, post office address, and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

Improved Facial Skin Dermabrasion Cleansing and Conditioning Composition

the specification of which

- ☒ is attached hereto  
OR

(Title of the invention)

- ☐ was filed on (MM/DD/YYYY)  as United States Application Number or PCT International

Application Number  and was amended on (MM/DD/YYYY)  (if applicable).

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment specifically referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56.

I hereby claim foreign priority benefits under 35 U.S.C. 119(a)-(d) or 365(b) of any foreign application(s) for patent or inventor's certificate, or 365(a) of any PCT International application which designated at least one country other than the United States of America, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or of any PCT International application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application Number(s)	Country	Foreign Filing Date (MM/DD/YYYY)	Priority Not Claimed	Certified Copy Attached?	
				YES	NO
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- ☐ Additional foreign application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto:

I hereby claim the benefit under 35 U.S.C. 119(e) of any United States provisional application(s) listed below.

Application Number(s)	Filing Date (MM/DD/YYYY)	<input type="checkbox"/> Additional provisional application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto.

[Page 1 of 1]

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PTO/SB/01 (12-97)

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**DECLARATION — Utility or Design Patent Application**

I hereby claim the benefit under 35 U.S.C. 120 of any United States application(s), or 365(c) of any PCT International application designating the United States of America, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of 35 U.S.C. 112, I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56 which became available between the filing date of the prior application and the national or PCT International filing date of this application.

U.S. Parent Application or PCT Parent Number	Parent Filing Date (MM/DD/YYYY)	Parent Patent Number (if applicable)

☐ Additional U.S. or PCT International application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto.

As a named inventor, I hereby appoint the following registered practitioner(s) to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith:

☐ Customer Number 

OR

☐ Registered practitioner(s) name/registration number listed belowPlace Customer  
Number Bar Code  
Label here

Name	Registration Number	Name	Registration Number
Charles J. Prescott	30,316		

☐ Additional registered practitioner(s) named on supplemental Registered Practitioner Information sheet PTO/SB/02C attached hereto.Direct all correspondence to: ☐ Customer Number  OR ☒ Correspondence address below

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Address	Suite 115				
City	Sarasota	State	FL	ZIP	34237
Country	US	Telephone	(941) 957-4208	Fax	(941) 957-4210

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Name of Sole or First Inventor:		<input type="checkbox"/> A petition has been filed for this unsigned inventor					
Given Name (first and middle (if any))			Family Name or Surname				
Donna			Messenger				
Inventor's Signature	X <i>Donna Messenger</i>				Date	X 4-3-00	
Residence: City	Sarasota	State	FL	Country	US	Citizenship	US
Post Office Address	888 Boulevard of the Arts #1803						
Post Office Address							
City	Sarasota	State	FL	ZIP	34236	Country	US
<input type="checkbox"/> Additional inventors are being named on the _____ supplemental Additional Inventor(s) sheet(s) PTO/SB/02A attached hereto							